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ABSTRACT

This booklet presents the high school assessment program for algebra by listing Maryland's Core Learning Goals. The match of content indicators and the skills for successful elaborations in thinking, communication, and technology regarding algebra are discussed. (ASK)

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ED 439 020

HIGH SCHOOL ASSESSMENT PROGRAM

ALGEBRA

Showing the Match of The Content Indicators and The Skills For Success Elaborations In

- Thinking
- Communication
- Technology

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Maryland Core Learning Goals
Algebra

Indicator: ***1.1.1*** ***The student will recognize, describe, and/or extend patterns and functional relationships that are expressed numerically, algebraically, and/or geometrically.***

Skills For Success Indicator and Elaboration Matches:
Goal 2: Thinking Skills

1.1 The student will develop alternative perspectives or ways of thinking and acting in complex situations.

1.1.1 Express thoughts relevant to situations.

2.6 The student will use evidence and/or reason to support or refute ideas, issues, or positions.

2.6.6 Support or refute representations of ideas, issues, or positions, using analyses of evidence and reasoning.

3.1 The student will demonstrate strategic thinking to make effective decisions, solve problems, and achieve goals in a variety of situations.

3.1.6 Adapt to personal use strategic thinking and behavior learned from others.

4.1 The student will understand situations within which problems are found.

4.1.2 Identify important information, assumptions, relationships, and perspectives that may affect identification, understanding, and solution of problems in specific situations.

4.1.3 Determine missing information that may affect understanding and solving problems in specific situations.

4.1.4 Represent understanding of situations verbally and nonverbally.

4.2 The student will define problems in specific situations.

4.2.3 Identify information needed to solve problems.

4.2.7 Anticipate the forms possible solutions might take.

4.2.8 Predict solutions to problems and provide rationales for predictions.

4.3 The student will identify and evaluate alternative ways of solving problems.

4.3.1 Identify strategies that have worked in similar problem situations.

4.4 The student will select and use appropriate strategies to solve problems.

4.4.1 Select and use strategies that seem most appropriate to problems, problem-solving, and specific situations

4.4.2 Divide problem-solving processes into several anticipated stages, if necessary or helpful.

4.4.3 Identify expected outcomes in each stage.

4.4.4 Monitor problem-solving processes through each stage.

4.4.5 Compare expected outcomes with actual outcomes in each stage.

4.4.6 Review preceding work and decisions if outcomes are different from expectations.

4.4.7 Adjust uses of strategies as necessary.

4.5 The student will evaluate solutions and strategies used to solve problems.

4.5.2 Evaluate solutions, using specific criteria.

4.5.3 Compare actual solutions with expected solutions.

4.5.5 Rework problems if solutions fail to meet criteria.

4.5.8 Determine what worked, what did not, and what other problems might be solved with specific strategies.

4.5.11 Adjust or refine problem-solving strategies as necessary.

Goal 3: Communication Skills

1.4 The student will use writing skills and strategies to construct written skills.

1.4.11 Proofread for spelling, punctuation, and grammar and edits as necessary.

2.3 The student will use reading skills and strategies to gather information and interpret written messages.

2.3.4 Scan titles, headers, and graphics displays of texts to gain a general sense of their contents and organization.

2.3.9 Construct interpretations of text messages in verbal and nonverbal forms, using text-based and knowledge-based information and reasoning.

2.5 The student will organize, store, and access information, using appropriate written, graphic, electronic, or other formats.

2.5.1 Identify intended uses of information.

Maryland Core Learning Goals
Algebra

0Indicator: 1.1.2 ***The student will represent and/or functional relationships in a table, as a graph, and/or by mathematical expression.***

Skills For Success Indicator and Elaboration Matches:
Goal 2: Thinking Skills

1.1 The student will develop alternative perspectives or ways of thinking and acting in complex situations.

1.1.1 Express thoughts relevant to situations.

2.6 The student will use evidence and/or reason to support or refute ideas, issues, or positions.

2.6.6 Support or refute representations of ideas, issues, or positions, using analyses of evidence and reasoning.

4.1 The student will understand situations within which problems are found.

4.1.2 Identify important information, assumptions, relationships, and perspectives that may affect identification, understanding, and solution of problems in specific situations.

4.1.4 Represent understanding of situations verbally and nonverbally.

4.2 The student will define problems in specific situations.

4.2.3 Identify information needed to solve problems.

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2.3.9 Construct interpretations of text messages in verbal and nonverbal forms, using text-based and knowledge-based information and reasoning.

2.5 The student will organize, store, and access information, using appropriate written, graphic, electronic, or other formats.

2.5.1 Identify intended uses of information.

Goal 4: Technology Skills

2.3 The student will use appropriate technologies to access, store, manage, analyze, and communicate information.

2.3.5 Use technological systems and devices to communicate information effectively.

Maryland Core Learning Goals
Algebra

Indicator: 1.1.3 ***The student will apply addition, subtraction, multiplication, and/or division of algebraic expressions to mathematical and real-world problems.***

Skills For Success Indicator and Elaboration Matches:
Goal 2: Thinking Skills

1.1 The student will develop alternative perspectives or ways of thinking and acting in complex situations.

1.1.1 Express thoughts relevant to situations.

4.1 The student will understand situations within which problems are found.

4.1.2 Identify important information, assumptions, relationships, and perspectives that may affect identification, understanding, and solution of problems in specific situations.

4.2 The student will define problems in specific situations.

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1.4 The student will use writing skills and strategies to construct written skills.

1.4.11 Proofread for spelling, punctuation, and grammar and edits as necessary.

2.3 The student will use reading skills and strategies to gather information and interpret written messages.

2.3.9 Construct interpretations of text messages in verbal and nonverbal forms, using text-based and knowledge-based information and reasoning.

Maryland Core Learning Goals
Algebra

Indicator: 1.1.4 ***The student will describe the graph of a non-linear function and discuss its appearance in terms of the basic concepts of maxima and minima (highs and lows), roots (zeros), limits (boundaries), rate of change, and continuity.***

Skills For Success Indicator and Elaboration Matches:
Goal 2: Thinking Skills

1.1 The student will develop alternative perspectives or ways of thinking and acting in complex situations.

1.1.1 Express thoughts relevant to situations.

2.3 The student will examine basic concepts and assumptions underlying ideas, issues, or positions.

2.3.3 Identify explicit concepts and assumptions that support or refute ideas, issues, or positions.

2.3.7 Compare alternative analyses.

2.4 The student will establish clear criteria for evaluating ideas, issues, or positions.

2.4.5 Represent relationships between ideas or issues and their supporting arguments information.

2.6 The student will use evidence and/or reason to support or refute ideas, issues, or positions.

2.6.2 Identify evidence and reasoning used to support or refute ideas, issues, or positions.

2.6.3 Determine the relevance and validity of evidence and reasoning used to support or refute ideas, issues, or positions.

2.6.5 Represent analyses verbally or nonverbally.

2.6.6 Support or refute representations of ideas, issues, or positions, using analyses of evidence and reasoning.

4.1 The student will understand situations within which problems are found.

4.1.2 Identify important information, assumptions, relationships, and perspectives that may affect identification, understanding, and solution of problems in specific situations.

4.1.3 Determine missing information, assumptions, relationships, and perspectives that may affect identification, understanding, and solution of problems in specific situations.

4.1.4 Represent understanding of situations verbally or nonverbally.

4.2 The student will define problems in specific situations.

4.2.3 Identify information needed to solve problems.

4.2.6 Determine whether or not problems can be solve with available information.

4.2.7 Anticipate the forms possible solutions might take.

4.2.8 Predict solutions to problems and provide rationales for predictions.

4.3 The student will identify and evaluate alternative ways of solving problems.

4.3.1 Identify strategies that have worked in similar problem situations.

4.3.2 Match potential problem-solving strategies with expected solutions, available information, and similarity of situations.

4.3.3 Identify knowledge, resources, and skills required to solve problems.

4.3.4 Identify strategies that seem most appropriate to situations, expected solutions, knowledge, available information and resources, and available levels of skills.

4.4 The student will select and use appropriate strategies to solve problems.

4.4.1 Select and use strategies that seem most appropriate to problems, problem-solving, and specific situations.

4.4.3 Identify expected outcomes in each stage.

4.5 The student will evaluate solutions and strategies used to solve problems.

4.5.1 Establish criteria for evaluating solutions.

4.5.2 Evaluate solutions, using specific criteria.

4.5.3 Compare actual solutions with expected solutions.

4.5.5 Rework problems if solutions fail to meet criteria.

4.5.6 Determine where original problem-solving strategies went wrong, if necessary.

4.5.7 Reflect problem-solving strategies in specific situations.

4.5.8 Determine what worked, what did not, and what other problems might be solved with specific strategies.

Goal 3: Communication Skills

1.4 The student will use writing skills and strategies to construct written skills.

1.4.11 Proofread for spelling, punctuation, and grammar and edits as necessary.

2.3 The student will use reading skills and strategies to gather information and interpret written messages.

2.3.4 Scan titles, headers, and graphics displays of texts to gain a general sense of their content and organization.

2.3.9 Construct interpretations of text messages in verbal and nonverbal forms, using text-based and knowledge-based information and reasoning.

2.4 The student will evaluate and usefulness of information gained for specific purposes.

2.4.4 Identify bias, misinterpretation, misuses of information, inaccurate or sufficient information, failures in logic or reason, and so forth.

Goal 4: Technology Skills

2.1 The student will use technologies in safe and effective manner.

2.1.1 Identify and describe appropriate uses of technologies in specific situations.

2.1.3 Use appropriate terminologies for technological systems and devices.

2.1.4 Operate and maintain tools and equipment safely and effectively, including computers, calculators, scientific equipment, and machines.

2.3 The student will use appropriate technologies to access, store, manage, analyze, and communicate information.

2.3.5 Use technological systems and devices to communicate information effectively.

2.5 The student will monitor, evaluate, and plan to improve personal uses of technologies.

2.5.1 Identify goals and purposes for using technologies in specific situations.

3.1 The student will analyze the effects of technologies on individuals, society, and the environment.

3.1.7 Determine the limitations of technologies as solutions to problems.

Maryland Core Learning Goals
Algebra

Indicator: 1.2.1 ***The student will determine the equation for a line, solve linear equations, and/or describe the solution using numbers, symbols, and/or graphs.***

Skills For Success Indicator and Elaboration Matches:
Goal 2: Thinking Skills

1.1 The student will develop alternative perspectives or ways of thinking and acting in complex situations.

1.1.1 Express thoughts relevant to situations.

2.3 The student will examine basic concepts and assumptions underlying ideas, issues, or positions.

2.3.1 Identify ideas, issues, or positions in specific situations.

2.4 The student will establish clear criteria for evaluating ideas, issues, or positions.

2.4.1 Identify ideas, issues, or positions in specific situations.

2.6 The student will use evidence and/or reason to support or refute ideas, issues, or positions.

2.6.1 Identify ideas, issues, or positions in specific situations.

2.6.2 Identify evidence and reasoning used to support or refute ideas, issues, or positions.

2.6.3 Determine the relevance and validity of evidence and reasoning used to support or refute ideas, issues, or positions.

2.6.5 Represent analyses verbally or nonverbally.

2.6.6 Support or refute representations of ideas, issues, or positions, using analyses of evidence and reasoning.

2.6.7 Present analyses to others and reads or listens actively to their responses.

2.6.8 Compare own analyses of ideas, issues, or positions with analyses presented to others.

3.1 The student will demonstrate strategic thinking to make effective decisions, solve problems, and achieve goals in a variety of situations.

3.1.6 Adapt to personal use strategic thinking and behavior learned from others.

4.1 The student will understand situations within which problems are found.

4.1.1 Describe situations within which problems are found.

4.1.2 Identify important information, assumptions, relationships, and perspectives that may affect identification, understanding, and solution of problems in specific situations.

4.1.3 Determine missing information that may affect understanding and solving problems in specific situations.

4.1.4 Represent understanding of situations verbally or nonverbally.

4.2 The student will define problems in specific situations.

4.2.3 Identify information needed to solve problems.

4.2.4 Determine how much needed information is explicit in situations and how much can be inferred or developed.

4.2.6 Determine whether or not problems can be solved with available information.

4.2.7 Anticipate the forms possible solutions might take.

4.2.8 Predict solutions to problems and provide rationales for predictions.

4.3 The student will identify and evaluate alternative ways of solving problems.

4.3.1 Identify strategies that have worked in similar problem situations.

4.3.2 Match potential problem-solving strategies with expected solutions, available information, and similarity of situations.

4.3.3 Identify knowledge, resources, and skills required to solve problems.

4.3.4 Identify strategies that seem most appropriate to situations, expected solutions, knowledge, available information and resources, and available levels of skills.

4.4 The student will select and use appropriate strategies to solve problems.

4.4.1 Select and use strategies that seem most appropriate to problems, problem-solving, and specific situations.

4.4.2 Divide problem-solving processes into several anticipated stages, if necessary or helpful.

4.4.3 Identify expected outcomes in each stage.

4.4.4 Monitor problem-solving processes through each stage.

4.4.5 Compare expected outcomes with actual outcomes in each stage.

4.4.6 Review preceding work and decisions if outcomes are different from expectations.

4.4.7 Adjust uses of strategies as necessary.

4.5 The student will evaluate solutions and strategies used to solve problems.

4.5.3 Compare actual solutions with expected solutions.

4.5.4 Compares solutions with solutions by others.

4.5.5 Rework problems if solutions fail to meet criteria.

4.5.6 Determine where original problem-solving strategies went wrong, if necessary.

4.5.11 Adjust or refine problem-solving strategies as necessary.

Goal 3: Communication Skills

1.4 The student will use writing skills and strategies to construct written skills.

1.4.4 Choose and use writing forms or genre appropriate to purposes, messages, audiences, and situations.

1.4.11 Proofread for spelling, punctuation, and grammar and edits as necessary.

2.3 The student will use reading skills and strategies to gather information and interpret written messages.

2.3.9 Construct interpretations of text-messages in verbal and nonverbal forms, using text-based and knowledge-based information and reasoning.

2.4 The student will establish clear criteria for evaluating ideas, issues, or positions.

2.4.4 Present and listen to alternative criteria and rationales for them.

2.5 The student will organize, store, and access information, using appropriate written, graphic, electronic, or other formats.

2.5.1 Identify intended uses of information.

2.5.8 Determine organization of information appropriate to intended uses and available technologies, time, and skills.

Goal 4: Technology Skills

1.1 The student will identity and use resources and strategies for keeping abreast and advances in technologies.

1.1.1 Identify multiple sources of information such as human, print, or electronic advances in technologies.

1.2 The student will identify and describe current technologies used to meet a variety of needs, including accessing and managing information, communicating, performing work, and solving problems in a variety of situations.

1.2.1 Identify specific needs for technologies in information search and management, communication, work, problem solving problems solving, and other uses.

1.2.2 Identify technologies used to meet needs.

1.2.7 Describe current technologies used to solve problems in a variety of situations, such as calculators, computers, and scientific equipment.

1.3 The student will evaluate the uses of current technologies in specific situations.

1.3.1 Identify uses of current technologies in specific situations.

1.3.8 Compare and select appropriate technologies for specific situations.

1.4 The student will identify needs not being met by current technologies and emerging technological solutions that may meet those needs.

1.4.4 Determine how well emerging technologies may meet specific needs.

2.1 The student will use technologies in safe and effective manner.

2.1.1 Identify and describe appropriate uses of technologies in specific situations.

2.1.3 Use appropriate terminologies for technological systems and devices.

2.1.4 Operate and maintain tools and equipment safely and effectively, including computers, calculators, scientific equipment, and machines.

2.3 The student will use appropriate technologies to access, store, manage, analyze, and communicate information.

2.3.1 Access information from a variety of sources, including computer data bases and communication networks.

2.3.2 Store information electronically, using and intergrating appropriate software.

2.3.3 Manage information by means of electronic manipulation and organization, using appropriate software.

2.3.4 Analyze information, using appropriate software.

2.3.5 Use technological systems and devices to communicate information effectively.

2.3.8 Make changes in uses of technologies as appropriate.

2.4 The student will appropriate technologies for research, creativity, and problem solving.

2.4.1 Identify needs for technologies to increase productivity, to do research, for creative expression, to solve problem, and for other purposes.

2.4.5 Using existing, modified, or new technologies to do research, increase productivity, create new products or processes, for creative expression, to solve problems, and for other purposes.

2.5 The student will monitor, evaluate, and plan to improve personal uses of technologies.

2.5.1 Identify goals and purposes for using technologies in specific situations.

3.1 The student will analyze the effects of technologies on individuals, society, and the environment.

3.1.7 Determine the limitations of technologies as solutions to problems.

Maryland Core Learning Goals
Algebra

Indicator: 1.2.2 ***The student will solve linear inequalities and describe the solutions using numbers, symbols, and/or graphs.***

Skills For Success Indicator and Elaboration Matches:
Goal 2: Thinking Skills

1.1 The student will develop alternative perspectives or ways of thinking and acting in complex situations.

1.1.1 Express thoughts relevant to situations.

2.3 The student will examine basic concepts and assumptions underlying ideas, issues, or positions.

2.3.1 Identify ideas, issues, or positions in specific situations.

2.4 The student will establish clear criteria for evaluating ideas, issues, or positions.

2.4.1 Identify ideas, issues, or positions in specific situations.

2.6 The student will use evidence and/or reason to support or refute ideas, issues, or positions.

2.6.1 Identify ideas, issues, or positions in specific situations.

2.6.2 Identify evidence and reasoning used to support or refute ideas, issues, or positions.

2.6.3 Determine the relevance and validity of evidence and reasoning used to support or refute ideas, issues, or positions.

2.6.5 Represent analyses verbally or nonverbally.

2.6.6 Support or refute representations of ideas, issues, or positions, using analyses of evidence and reasoning.

2.6.7 Present analyses to others and reads or listens actively to their responses.

2.6.8 Compare own analyses of ideas, issues, or positions with analyses presented to others.

3.1 The student will demonstrate strategic thinking to make effective decisions, solve problems, and achieve goals in a variety of situations.

3.1.6 Adapt to personal use strategic thinking and behavior learned to others.

4.1 The student will understand situations within which problems are found.

4.1.1 Describe situations within which problems are found.

4.1.2 Identify important information, assumptions, relationships, and perspectives that may affect identification, understanding, and solution of problems in specific situations.

4.1.3 Determine missing information that may affect understanding and solving problems in specific situations.

4.1.4 Represent understanding of situations verbally or nonverbally.

4.2 The student will define problems in specific situations.

4.2.3 Identify information needed to solve problems.

4.2.4 Determine how much needed information is explicit in situations and how much developed.

4.2.6 Determine whether or not problems can be solved with available information.

4.2.7 Anticipate the forms possible solutions might take.

4.2.8 Predict solutions to problems and provide rationales for predictions.

4.3 The student will identify and evaluate alternative ways of solving problems.

4.3.1 Identify strategies that have worked in similar problem situations.

4.3.2 Match potential problem-solving strategies with expected solutions, available information, and similarity of situations.

4.3.3 Identify knowledge, resources, and skills required to solve problems.

4.3.4 Identify strategies that seem most appropriate to situations, expected solutions, knowledge, available information and resources, and available levels of skills.

4.4 The student will select and use appropriate strategies to solve problems.

4.4.1 Select and use strategies that seem most appropriate to problems, problem-solving, and specific situations.

4.4.2 Divide problem-solving processes into several anticipated stages, if necessary or helpful.

4.4.3 Identify expected outcomes in stage.

4.4.4 Monitor problem-solving processes through each stage.

4.4.5 Compare expected outcomes with actual outcomes in each stage.

4.4.6 Review preceding work and decisions if outcomes are different from expectations.

4.4.7 Adjust uses of strategies as necessary.

4.5 The student will evaluate solutions and strategies used to solve problems.

4.5.3 Compare actual solutions with expected solutions.

4.5.4 Compares solutions with solutions by others.

4.5.5 Rework problems if solutions fail to meet the criteria.

4.5.6 Determine where original problem-solving strategies went wrong, if necessary.

4.5.11 Adjust or refine problem-solving strategies as necessary.

Goal 3: Communication Skills

1.4 The student will use writing skills and strategies to construct written skills.

1.4.4 Choose and use writing forms or genre appropriate to purposes, messages, audiences, and situations.

1.4.11 Proofread for spelling, punctuation, and grammar and edits as necessary.

2.3 The student will use reading skills and strategies to gather information and interpret written messages.

2.3.9 Construct interpretations of text messages in verbal and nonverbal forms, using text-based and knowledge-based information and reasoning.

2.4 The student will establish clear criteria for evaluating ideas, issues, or positions.

2.4.4 Present and listen to alternative criteria and rationales for them.

2.5 The student will organize, store, and access information, using appropriate written, graphic, electronic, or other formats.

2.5.1 Identify intended uses of information.

2.5.8 Determine organization of information appropriate to intended uses and available technologies, time, and skills.

Goal 4: Technology Skills

1.1 The student will identify and use resources and strategies for keeping abreast of advances in technologies.

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1.2.1 Identify specific needs for technologies in information search and management, communication, work, problem solving, and other uses.

1.2.7 Describe current technologies used to solve problems in a variety of situations, such as calculators, computers, and scientific equipment.

1.3 The student will evaluate the uses of current technologies in specific situations.

1.3.1 Identify uses of current technologies in specific situations.

1.3.8 Compare and select appropriate technologies for specific situations.

1.4 The student will identify needs not being met by current technologies and emerging technological solutions that may meet those needs.

1.4.4 Determine how well emerging technologies may meet specific needs.

2.1 The student will use technologies in a safe and effective manner.

2.1.1 Identify and describe appropriate uses of technologies in specific situations.

2.1.3 Use appropriate terminologies for technological systems and devices.

2.3 The student will use appropriate technologies to access, store, manage, analyze, and communicate information.

2.3.1 Access information from a variety of sources, including, computer data bases and communication networks.

2.3.2 Store information electronically, using and integrating appropriate software.

2.3.3 Manage information by means of electronic manipulation and organization, using appropriate software.

2.3.4 Analyze information, using appropriate software.

2.3.5 Use technological systems and devices to communicate information effectively.

2.3.8 Make changes in uses of technologies as appropriate.

2.4 The student will use appropriate technologies for research, creativity, and problem solving.

2.4.1 Identify needs for technologies to increase productivity, to do research, for creative expression, to solve problems, and for other purposes.

2.4.5 Use existing, modified, or new technologies to do research, increase productivity, create new products or processes, for creative expression, to solve problems, and for other purposes.

2.5 The student will monitor, evaluate, and plan to improve personal use of technologies.

2.5.1 Identify goals and purposes for using technologies in specific situations.

3.1 The student will analyze the effects of technologies on individuals, society, and the environment.

3.1.7 Determine the limitations of technologies as solutions to problems.

Maryland Core Learning Goals
Algebra

Indicator: 1.2.3 ***The student will solve and describe if and where two straight lines intersect using numbers, symbols, and/or graphs.***

Skills For Success Indicator and Elaboration Matches:
Goal 2: Thinking Skills

1.1 The student will develop alternative perspectives or ways of thinking and acting in complex situations.

1.1.1 Express thoughts relevant to situations.

2.3 The student will examine basic concepts and assumptions underlying ideas, issues, or positions.

2.3.1 Identify ideas, issues, or positions in specific situations.

2.4 The student will establish clear criteria for evaluating ideas, issues, or positions.

2.4.1 Identify ideas, issues, or positions in specific situations.

2.6 The student will use evidence and/or reason to support or refute ideas, issues, or positions.

2.6.1 Identify bias, issues, or positions in specific situations.

2.6.2 Identify evidence and reasoning used to support or refute ideas, issues, or positions.

2.6.3 Determine the relevance and validity of evidence and reasoning used to support or refute ideas, issues, or positions.

2.6.5 Represent analyses verbally or nonverbally.

2.6.6 Support or refute representations of ideas, issues, or positions, using analyses of evidence and reasoning.

2.6.7 Present analyses to others and reads or listens actively to their responses.

2.6.8 Compare own analyses of ideas, issues, or positions with analyses presented to others.

3.1 The student will demonstrate strategic thinking to make effective decisions, solve problems, and achieve goals in a variety of situations.

3.1.6 Adapt to personal use strategic thinking and behavior learned from others.

4.1 The student will understand situations within which problems are found.

4.1.1 Describe situations within which problems are found.

4.1.2 Identify important information, assumptions, relationships, and perspectives that may affect identification, understanding, and solution of problems in specific situations.

4.1.3 Determine missing information that may affect understanding and solving problems in specific situations.

4.1.4 Represent understanding of situations verbally or nonverbally.

4.2 The student will define problems in specific situations.

4.2.3 Identify information needed to solve problems.

4.2.4 Determine how much needed information is explicit in situations and how much can be inferred or developed.

4.2.6 Determine whether or not problems can be solved with available information.

4.2.7 Anticipate the forms possible solutions might take.

4.2.8 Predict solutions to problems and provide rationales for predictions.

4.3 The student will identify and evaluate alternative way of solving problems.

4.3.1 Identify strategies that have worked in similar problem situations.

4.3.2 Match potential problem-solving strategies with expected solutions, available information, and similarity of situations.

4.3.3 Identify knowledge, resources, and skills required to solve problems.

4.3.4 Identify strategies that seem most appropriate to situations, expected solutions, knowledge, available information and resources, and available levels of skills.

4.4 The student will select and use appropriate strategies to solve problems.

4.4.1 Select and use strategies that seem most appropriate to problems, problem-solving, and specific situations.

4.4.2 Divide problem-solving processes into several anticipated stages, if necessary or helpful.

4.4.3 Identify expected outcomes in each stage.

4.4.4 Monitor problem-solving processes through each stage.

4.4.5 Compare expected outcomes with actual outcomes in each stage.

4.4.6 Review preceding work and decisions if outcomes are different from expectations.

4.4.7 Adjust uses of strategies or change strategies as necessary.

4.5 The student will evaluate solutions and strategies used to solve problems.

4.5.3 Compare actual solutions with expected solutions.

4.5.4 Compares solutions with solutions by others.

4.5.5 Rework problems if solutions fail to meet criteria.

4.5.6 Determine where original problem-solving strategies went wrong, if necessary.

4.5.11 Adjust or refine problem-solving strategies as necessary.

Goal 3: Communication Skills

1.4 The student will use writing skills and strategies to construct written skills.

1.4.4 Choose and use writing forms or genre appropriate to purposes, messages, audiences, and situations.

1.4.11 Proofread for spelling, punctuation, and grammar and edits as necessary.

2.3 The student will use reading skills and strategies to gather information and interpret written messages.

2.3.9 Construct interpretations of text messages in verbal and nonverbal forms, using text-based and knowledge-based information and reasoning.

2.5 The student will organize, store, and access information, using appropriate written, graphic, electronic, or other formats.

2.5.1 Identify intended uses of information.

2.5.8 Determine organization of information appropriate to intended uses and available technologies, time, and skills.

Goal 4: Technology Skills

1.1 The student will identify and use resources and strategies for keeping abreast and of advances in technologies.

1.1.1 Identify multiple sources of information such as human, print, or electronic advances in technologies.

1.2 The student will identify and describe current technologies used to meet a variety of needs, including accessing and managing information, communicating, performing work, and solving problems in a variety of situations.

1.2.1 Identify specific needs for technologies in information search and management, communication, work, problem solving, and other uses.

1.2.2 Identify technologies used to meet needs.

1.2.7 Describe current technologies used to solve problems in a variety of situations, such as calculators, computers, and scientific equipment.

1.3 The student will evaluate the uses of current technologies in specific situations.

1.3.1 Identify uses of current technologies in specific situations.

1.3.8 Compare and select appropriate technologies for specific situations.

1.4 The student will identify needs not being met by current technologies and emerging technological solutions that may meet those needs.

1.4.4 Determine how well emerging technologies may meet specific needs.

2.1 The student will use technologies in safe and effective manner.

2.1.1 Identify and describe appropriate uses of technologies in specific situations.

2.1.3 Use appropriate terminologies for technological systems and devices.

2.1.4 Operate and maintain tools and equipment safely and effectively, including computers, calculators, scientific equipment, and machines.

2.3 The student will use appropriate technological to access, store, manage, analyze, and communicate information.

2.3.1 Access information from a variety of sources, including computer data bases and communication networks.

2.3.2 Store information electronically, using and intergrating appropriate software.

2.3.3 Manage information by means of electronic manipulation and organization, using appropriate software.

2.3.4 Analyze information, using appropriate software.

2.3.5 Use technological systems and devices to communicate information effectively.

2.3.8 Make changes in uses of technologies as appropriate.

2.4 The student will appropriate technologies for research, creativity, and problem solving.

2.4.1 Identify needs for technologies to increase productivity, to do research, for reative expression, to solve problem, and for other purposes.

2.4.5 Using existing, modified, or new technologies to do research, increase productivity, create new products of processes, for creative expression, to solve problems, and for other purposes.

2.5 The student will monitor, evaluate, and plan to improve personal uses of technologies.

2.5.1 Identify goals and purposes for using technologies in specific situations.

3.1 The student will analyze the effects of technologies on individuals, society, and the environment.

3.1.7 Determine the limitations of technologies as solutions to problems.

Maryland Core Learning Goals
Algebra

Indicator: 1.2.4 ***The student will describe how the graphical model of a non-linear function represents a given problem and will estimate the solution.***

Skills For Success Indicator and Elaboration Matches:
Goal 2: Thinking Skills

1.1 The student will develop alternative perspectives or ways of thinking and acting in complex situations.

1.1.1 Express thoughts relevant to situations.

2.6 The student will use evidence and/or reason to support or refute ideas, issues, or positions.

2.6.2 Identify evidence and reasoning used to support or refute ideas, issues, or positions.

2.6.5 Represent analyses verbally and nonverbally.

2.6.6 Support or refute representations of ideas, issues, or positions, using analyses of evidence and reasoning.

4.1 The student will understand situations within which problems are found.

4.1.2 Identify important information, assumptions, relationships, and perspectives that may affect identification, understanding, and solution of problems in specific situations.

4.1.3 Determine missing information that may affect understanding and solving problems in specific situations.

4.1.4 Represent understanding of situations verbally and nonverbally.

4.2 The student will define problems in specific situations.

4.2.3 Identify information needed to solve problems.

4.2.6 Determine whether or not problems can be solved with available information.

4.2.7 Anticipate the forms possible solutions might take.

4.2.8 Predict solutions to problems and provide rationales for predictions.

4.3 The student will identify and evaluate alternative ways of solving problems.

4.3.1 Identify strategies that have worked in similar problem situations.

4.3.2 Match potential problem-solving strategies with expected solutions, available information, and similarity of situations.

4.3.3 Identify knowledge, resources, and skills required to solve problems.

4.3.4 Identify strategies that seem most appropriate to situations, expected solutions, knowledge, available information and resources, and available levels of skills.

4.4 The student will select and use appropriate strategies to solve problems.

4.4.1 Select and use strategies that seem most appropriate to problems, problem-solving, and specific situations.

4.4.3 Identify expected outcomes in each stage.

4.4.4 Monitor problem-solving processes through each stage.

4.4.5 Compare expected outcomes with actual outcomes in each stage.

4.5 The student will evaluate solutions and strategies used to solve problems.

4.5.1 Establish criteria for evaluating solutions.

4.5.2 Evaluate solutions, using specific criteria.

4.5.3 Compare actual solutions with expected solutions.

4.5.5 Rework problems if solutions fail to meet criteria.

4.5.6 Determine where original problem-solving strategies went wrong, if necessary.

4.5.7 Reflect on problem-solving strategies in specific situations.

4.5.8 Determine what worked, what did not, and what other problems might be solved with specific strategies.

4.5.11 Adjust or refine problem-solving strategies as necessary.

Goal 3 Communication Skills

1.4 The student will use writing skills and strategies to construct written skills.

1.4.11 Proofread for spelling, punctuation, and grammar and edits as necessary.

2.3 The student will use reading skills and strategies to gather information and interpret written messages.

2.3.4 Scan titles, headers, and graphics displays of texts to gain a general sense of their content and organization.

2.3.9 Construct interpretations of text message in verbal and nonverbal forms, using text-based and knowledge-based information and reasoning.

2.4 The student will establish clear criteria for evaluating ideas, issues, or positions.

2.4.4 Present and listen to alternative criteria and rationales for them.

Goal 4: Technology Skills

1.2 The student will identify and describe current technologies used to meet a variety of needs, including accessing and managing information, communicating, performing work, and solving problems in a variety of situations.

1.2.2 Identify technologies used to meet needs.

1.2.7 Describe current technologies used to solve problems in a variety of situations, such as calculators, computers, and scientific equipment.

1.3 The student will evaluate the uses of technologies in specific situations.

1.3.1 Identify uses of current technologies in specific situations.

1.3.8 Compare and select appropriate technologies for specific situations.

2.1 The student will use technologies in safe and effective manner.

2.1.1 Identify and describe appropriate uses of technologies in specific situations.

2.1.3 Use appropriate terminologies for technological systems and devices.

2.1.4 Operate and maintain tools and equipment safely and effectively, including computers, calculators, scientific equipment, and machines.

2.3 The student will use appropriate technologies to access, store, manage, analyze, and communicate information.

2.3.5 Use technological systems and devices to communicate information effectively.

2.5 The student will monitor, evaluate, and plan to improve personal uses of technologies.

2.5.1 Identify goals and purposes for using technologies in specific situations.

3.1 The student will analyze the effects of technologies on individuals, society, and the environment.

3.1.7 Determine the limitations of technologies as solutions to problems.

Maryland Core Learning Goals
Algebra

Indicator: 1.2.5 The student will apply formulas and/or use matrices (arrays of numbers) to solve real-world problems.

Skills For Success Indicator and Elaboration Matches:
Goal 2: Thinking Skills

1.1 The student will develop alternative perspectives or ways of thinking and acting in complex situations.

1.1.1 Express thoughts relevant to situations.

2.6 The student will use evidence and/or reason to support or refute ideas, issues, or positions.

2.6.2 Identify evidence and reasoning used to support or refute ideas, issues, or positions.

2.6.5 Represent analyses verbally or nonverbally.

4.1 The student will understand situations within which problems are found.

4.1.2 Identify important information, assumptions, relationships, and perspectives that may affect identification, understanding, and solution of problems in specific situations.

4.1.3 Determine missing information that may affect understanding and solving problems in specific situations.

4.1.4 Represent understanding of situations verbally or nonverbally.

4.2 The student will define problems in specific situations.

4.2.3 Identify information needed to solve problems.

4.2.6 Determine whether or not problems can be solved with available information.

4.2.7 Anticipate the forms possible solutions might take.

4.2.8 Predict solutions to problems and provide rationales for predictions.

4.3 The student will identify and evaluate alternative ways of solving problems.

4.3.1 Identify strategies that have worked in similar problem situations.

4.3.2 Match potential problem-solving strategies with expected solutions, available information, and similarity of situations.

4.3.3 Identify knowledge, resources, and skills required to solve problems.

4.3.4 Identify strategies that seem most appropriate to situations, expected solutions, knowledge, available information and resources, and available levels of skills.

4.4 The student will select and use appropriate strategies to solve problems.

4.4.1 Select and use strategies that seem most appropriate to problems, problem-solving, and specific situations.

4.4.3 Identify expected outcomes in each stage.

4.4.4 Monitor problem-solving processes through each stage.

4.4.5 Compare expected outcomes with actual outcomes in each stage.

4.5 The student will evaluate solutions and strategies used to solve problems.

4.5.1 Establish criteria for evaluating solutions.

4.5.2 Evaluate solutions, using specific criteria.

4.5.3 Compare actual solutions with expected solutions.

4.5.5 Rework problems if solutions fail to meet criteria.

4.5.6 Determine where original problem-solving strategies went wrong, if necessary.

4.5.7 Reflect on problem-solving strategies in specific situations.

4.5.8 Determine what worked, what did not, and what other problems might be solved with specific strategies.

4.5.11 Adjust or refine problem-solving strategies as necessary.

Goal 3: Communication Skills

1.4 The student will use writing skills and strategies to construct written skills.

1.4.11 Proofread for spelling, punctuation, and grammar and edits as necessary.

2.3 The student will use reading skills and strategies to gather information and interpret written messages.

2.3.9 Construct interpretations of text messages in verbal and nonverbal forms, using text-based and knowledge information and reasoning.

Goal 4: Technology Skills

1.2 The student will identify and describe current technologies used to meet a variety of needs, including accessing and managing information, communicating, performing work, and solving problems in a variety of situations.

1.2.2 Identify technologies used to meet needs.

1.2.7 Describe current technologies used to solve problems in a variety of situations, such as calculators, computers, and scientific equipment.

1.3 The student will evaluate the uses of current technologies in specific situations.

1.3.1 Identify uses of technologies in specific situations.

1.3.8 Compare and select appropriate technologies for specific situations.

2.1 The student will use technologies in safe and effective manner.

2.1.1 Identify and describe appropriate uses of technologies in specific situations.

2.1.3 Use appropriate terminologies for technological systems and devices.

2.1.4 Operate and maintain tools and equipment safely and effectively, including computers, calculators, scientific equipment, and machines.

2.3 The student will use appropriate technologies to access, store, manage, analyze, and communicate information.

2.3.5 Use technological systems and devices to communicate information effectively.

2.5 The student will monitor, evaluate, and plan to improve personal uses of technologies.

2.5.1 Identify goals and purposes for using technologies in specific situations.

3.1 The student will analyze the effects of technologies on individuals, society, and the environment.

3.1.7 Determine the limitations of technologies as solutions to problems.

Maryland Core Learning Goals
Algebra

Indicator: 3.1.1 ***The student will design and/or conduct an investigation that uses statistical methods to analyze data and communicate results.***

Skills For Success Indicator and Elaboration Matches:
Goal 2: Thinking Skills

1.1 The student will develop alternative perspectives or ways of thinking and acting in complex situations.

1.1.1 Express thoughts relevant to situations.

1.2 The student will represent creative ideas in forms appropriate to purpose and situations.

1.2.1 Identify intended uses of ideas in specific situations.

1.2.3 Represent ideas clearly and concisely.

1.2.5 Determine forms of presentations most appropriate to ideas, purposes, and situations.

2.1 The student will identify key ideas and issues in complex situations.

2.1.2 Determine how situations may affect purposes and presentations or reception of ideas or issues.

2.1.3 Identify explicit and implicit ideas or issues in specific situations.

2.1.4 Establish criteria for determining the importance of ideas or issues to purposes and situations, including relevance and validity.

2.1.6 Distinguish between major ideas or issues and supporting ideas, statements, or information.

2.1.7 Represent relationships among ideas or issues verbally or nonverbally.

2.2 The student will evaluate the relevance and usefulnesss of supporting information in ideas and issues.

2.2.1 Identify explicit or implicit purposes for using information in specific ideas or issues.

2.2.3 Establish criteria for evaluating the relevance and usefulness of information for specific purposes.

2.2.4 Determine the relevance and usefulness of information for specific purposes.

2.3 The student will examine basic concepts and assumptions underlying ideas, issues, or positions.

2.3.1 Identify bias, issues, or positions in specific situations.

2.3.2 Determine underlying concepts and assumptions on which ideas, issues, or positions are based in specific situations.

2.6 The student will use evidence and/or reason to support or refute ideas, issues, or positions.

2.6.3 Determine the relevance and validity of evidence and reasoning used to support or refute ideas, issues, or positions.

2.6.4 Distinguish between the style of presentation and informational content of ideas, issues, or arguments and positions.

2.6.5 Represent analyses verbally or nonverbally.

4.1 The student will understand situations within which problems are found.

4.1.2 Identify important information, assumptions, relationships, and perspectives that may affect identification, understanding, and solution of problems in specific situations.

4.1.3 Determine missing information that may affect understanding and solving problems in specific situations.

4.1.4 Represent understanding of situations verbally and nonverbally.

4.2 The student will define problems in specific situations.

4.2.3 Identify information needed to solve problems.

4.2.4 Determine how much needed information is explicit in situations and how much can be inferred and developed.

4.2.7 Anticipate the forms possible solutions might take.

4.3 The student will identify and evaluate alternative ways of solving problems.

4.3.1 Identify strategies that have worked in similar problem situations.

4.3.3 Identify knowledge, resources, and skills required to solve problems.

4.3.4 Identify strategies that seem most appropriate to situations, expected solutions, knowledge, available information and resources, and available level of skills.

4.4 The student will select and appropriate strategies to solve problems.

4.4.1 Select and use strategies that seem most appropriate to problems, problem-solving, and specific situations.

4.4.2 Divide problem-solving processes into several anticipated stages, if necessary or helpful.

4.5 The student will evaluate solutions and strategies used to solve problems.

4.5.2 Evaluate solutions, using specific criteria.

4.5.3 Compare actual solutions with expected solutions.

Goal 3: Communication Skills

1.4 The student will use writing skills and strategies to construct written skills.

1.4.4 Choose and use writing forms or genre appropriate to purposes, messages, audiences, and situations.

1.4.11 Proofread for spelling, punctuation, and grammar and edits as necessary.

2.1 The student will gather information from a variety of sources, using appropriate strategies, resources, and technologies.

2.1.1 Identify purposes for gathering information to communicate in a variety of situations.

2.1.2 Identify information needed for specific purposes.

2.1.3 Identify probable sources of needed information, including print, video, and electronic sources; personal contacts, media centers, libraries, achieves, communications networks, and other sources.

2.1.4 Identify a variety of strategies, resources, and technologies useful in information searches in a variety of sources.

2.1.5 Determine the strategies, resources, and technologies most useful for specific purposes; information needed; targeted sources; available skills; technologies, and time; and expert assistance available.

2.1.8 Identify additional information needed or new sources when appropriate.

2.1.10 Determine changes that may make data-gathering more successful or efficient.

2.3 The student will use reading skills and strategies to gather information and interpret written messages.

2.3.9 Construct interpretations of text messages in verbal and nonverbal forms, using text-based and knowledge-based information and reasoning.

2.4 The student will establish clear for evaluating ideas, issues, or positions.

2.4.3 Determine the validity of the use of information for specific purposes.

2.4.4 Identify bias, misinterpretation, misuse of information, inaccurate or insufficient information, failures in logic or reason, and so forth.

2.5 The student will organize, store, and access information, using appropriate written graphic, electronic, or other formats.

2.5.8 Determine organization of information appropriate to intended uses and available technologies, time, and skills.

Goal 4: Technology Skills

1.2 **The student will identify and describe current technologies used to meet a variety of needs, including accessing and managing information, communicating, performing work, and solving problems in a variety of situations.**

1.2.1 Identify specific needs for technologies in information search and management, communication, work, problem solving, and other uses.

1.2.2 Identify technologies used to meet needs.

1.2.7 Describe current technologies used to solve problems in a variety of situations, such as calculators, computers, and scientific equipment.

1.3 **The student will evaluate the uses of current technologies in specific situations.**

1.3.1 Identify uses of current technologies in specific situations.

1.3.8 Compare and select appropriate technologies for specific situations.

2.1 **The student will use technologies in safe and effective manner.**

2.1.1 Identify and describe appropriate uses of technologies in specific situations.

2.1.3 Use appropriate terminologies for technologies systems and devices.

2.1.4 Operate and maintain tools and equipment safely and effectively, including computers, calculators, scientific equipment, and machines.

2.4 **The student will use appropriate technologies for research, creativity, and problem solving.**

2.4.1 Identify needs for technologies to increase productivity, to do research, for creative expression, to solve problems, and for other purposes.

2.4.5 Use existing, modified, or new technologies to do research, increase productivity, create new products or processes, for creative expression, to solve problems, and for other problems.

2.5 **The student will monitor, evaluate, and plan to improve personal uses of technologies.**

2.5.1 Identify goals and purposes for using technologies in specific situations.

Maryland Core Learning Goals
Algebra

Indicator: 3.1.2 ***The student will use the measures of central tendency and/or variability (mean, median, mode, range, interquartile range, quartile) to make informed conclusions.***

Skills For Success Indicator and Elaboration Matches:
Goal 2: Thinking Skills

1.1 The student will develop alternative perspectives or ways of thinking and acting in complex situations.

1.1.1 Express thoughts relevant to situations.

2.1 The student will identify key ideas and issues in complex situations.

2.1.7 Represent relationships among ideas or issues verbally or nonverbally.

2.2 The student will evaluate the relevance and usefulness of supporting information in ideas and issues.

2.2.3 Establish criteria for evaluating the relevance and usefulness of information for specific purposes.

2.2.4 Determine the relevance and usefulness of information for specific purposes.

2.3 The student will examine basic concepts and assumptions underlying ideas, issues, or positions.

2.3.1 Identify ideas, issues, or positions in specific situations.

2.3.2 Determine underlying concepts and assumptions on which ideas, issues, or positions are based in specific situations.

2.6 The student will use evidence and/or reason to support or refute ideas, issues, or positions.

2.6.3 Determine the relevance and validity of evidence and reasoning used to support or refute ideas, issues, or positions.

2.6.4 Distinguish between the style of presentation and informational content of ideas, issues, or arguments and positions.

2.6.5 Represent analyses verbally or nonverbally.

4.1 The student will understand situations within which problems are found.

4.1.2 Identify important information, assumptions, relationships, and perspectives that may affect identification, understanding, and solution of problems in specific situations.

4.1.3 Determine missing information that may affect understanding and solving problems in specific situations.

4.1.4 Represent understanding of situations verbally and nonverbally.

4.2 The student will define problems in specific situations.

4.2.3 Identify information needed to solve problems.

4.3 The student will identify and evaluate alternative ways of solving problems.

4.3.1 Identify strategies that have worked in similar problem situations.

4.3.2 Match potential problem-solving strategies with expected solutions, available information, and similarity of situations.

4.3.3 Identify knowledge, resources, and skills required to solve problems.

4.3.4 Identify strategies that seem most appropriate to situations, expected solutions, knowledge, available information and resources, and available levels of skills.

4.5 The student will evaluate solutions and strategies used to solve problems.

4.5.2 Evaluate solutions, using specific criteria.

Goal 3: Communication Skills

1.4 The student will use writing skills and strategies to construct written skills.

1.4.4 Choose and use writing forms or genre appropriate to purposes, messages, audiences, and situations.

1.4.11 Proofread for spelling, punctuation, and grammar and edits as necessary.

2.3 The student will use reading skills and strategies to gather information and interpret written messages.

2.3.9 Construct interpretations of text messages in verbal and nonverbal forms, using text-based and knowledge-based information and reasoning.

2.4 The student will establish clear criteria for evaluating ideas, issues, or positions.

2.4.3 Determine the validity of the use of information for specific purposes.

2.4.4 Present and listen to alternative criteria and rationales for them.

Goal 4: Technology Skills

2.3 The student will use appropriate technologies to access, store, manage, analyze, and communicate information.

2.3.2 Store information, electronically, using and integrating appropriate software.

2.3.4 Analyze information, using appropriate software.

2.3.5 Use technological systems and devices to communicate information effectively.

Maryland Core Learning Goals
Algebra

Indicator: 3.1.3 ***The student will calculate theoretical probability or use simulations or statistical inferences from data to estimate the probability of an event.***

Skills For Success Indicator and Elaboration Matches:
Goal 2: Thinking Skills

1.1 The student will develop alternative perspectives or ways of thinking and acting in complex situations.

1.1.1 Express thoughts relevant to situations.

2.1 The student will identify key ideas and issues in complex situations.

2.1.7 Represent relationships among ideas or issues verbally or nonverbally.

2.2 The student will evaluate the relevance and usefulness of supporting information in ideas and issues.

2.2.3 Establish criteria for evaluating the relevance and usefulness of information for specific purposes.

2.6 The student will use evidence and/or reason to support or refute ideas, issues, or positions.

2.6.3 Determine the relevance and validity of evidence and reasoning used to support or refute, ideas, issues, or positions.

2.6.4 Distinguish between the style of presentation and informational content of ideas, issues, or arguments and positions.

2.6.5 Represent analyses verbally or nonverbally.

4.1 The student will understand situations within problems are found.

4.1.2 Identify important information, assumptions, relationships, and perspectives that may affect identification, understanding, and solution of problems in specific situations.

4.2 The student will define problems in specific situations.

4.2.3 Identify information needed to solve problems.

4.2.4 Determine how much needed information is explicit in situations and how much can be inferred or developed.

4.2.6 Determine whether or not problems can be solved with available information.

4.2.7 Anticipate the forms possible solutions might take.

4.3 The student will identify and evaluate alternative ways of solving problems.

4.3.1 Identify strategies that have worked in similar problem situations.

4.3.3 Identify knowledge, resources, and skills required to solve problems.

4.3.4 Identify strategies that seem most appropriate to situations, expected solutions, knowledge, available information and resources, and available levels of skills.

4.4 The student will select and use appropriate strategies to solve problems.

4.4.1 Select and use strategies that seem most appropriate to problems, problem-solving, and specific situations.

4.4.2 Divide problem-solving processes into several anticipated stages, if necessary or helpful.

4.5 The student will evaluate solutions and strategies used to solve problems.

4.5.2 Evaluate solutions, using specific criteria.

4.5.3 Compare actual solutions with expected solutions.

Goal 3: Communication Skills

1.4 The student will use writing skills and strategies to construct written skills.

1.4.4 Choose and use writing forms or genre appropriate to purposes, messages, audiences, and situations.

1.4.11 Proofread for spelling, punctuation, and grammar and edits as necessary.

2.3 The student will use reading skills and strategies to gather information and interpret written messages.

2.3.9 Construct interpretations or text messages in verbal and nonverbal forms, using text-based and knowledge-based information and reasoning.

2.4 The student will establish clear criteria for evaluating ideas, issues, or positions.

2.4.3 Determine the validity of the use of information for specific purposes.

2.4.5 Identify bias, misinterpretation, misuse of information, inaccurate or insufficient information, failures in logic or reason, and so forth.

Goal 4: Technology Skills

1.2 The student will identify and describe current technologies used to meet a variety of needs, including accessing and managing information, communicating, performing work, and solving problems in a variety of situations.

1.2.1 Identify specific needs for technologies in information search and management, communication, work, problem solving, and other uses.

1.2.2 Identify technologies used to meet needs.

1.2.7 Describe current technologies used to solve problems in a variety of situations, such as calculators, computers, and scientific equipment.

1.3 The student will evaluate the uses of current technologies in specific situations.

1.3.1 Identify uses of current technologies in specific situations.

1.3.8 Compare and select appropriate technologies for specific situations.

2.1 The student will use technologies in safe and effective manner.

2.1.1 Identify and describe appropriate uses of technologies in specific situations.

2.1.3 Use appropriate terminologies for technological systems and devices.

2.1.4 Operate and maintain tools and equipment safely and effectively, including computers, calculators, scientific equipment and machines.

2.3 The student will use appropriate technologies to access, store, manage, analyze, and communicate information.

2.3.4 Analyze information, using appropriate software.

2.3.5 Use technological systems and devices to communicate information effectively.

2.4 The student will use appropriate technologies for research, creativity, and problem solving.

2.4.1 Identify needs for technologies to increase productivity, to do research, for creative expression, to solve problems, and for other purpose.

2.4.4 Design and construct prototypes or models of processes to meet needs in specific situations.

2.4.5 Use existing, modified, or new technologies to do research, increase productivity, create new products or processes, for creative expression, to solve problems, and for other purposes.

2.4.6 Test, analyze, evaluate, and refine systems, processes, or devices for specific uses.

2.5 The student will monitor, evaluate, and plan to improve personal uses of technologies.

2.5.1 Identify goals and purposes for using technologies in specific situations.

Maryland Core L earning Goals
Algebra

Indicator: 3.2.1 ***The student will make informed decisions and predictions based upon the results of simulations and data from research.***

Skills For Success Indicator and Elaboration Matches:
Goal 2: Thinking Skills

1.1 The student will develop alternative perspectives or ways of thinking and acting in complex situations.

1.1.1 Express thoughts relevant to situations.

2.1 The student will identify key ideas and issues in complex situations.

2.1.7 Represent relationships among ideas or issues verbally or nonverbally.

2.2 The student will evaluate the relevance and usefulness of supporting information in ideas and issues.

2.2.6 Identify additional information needed to support purposes, when appropriate.

2.6 The student will use evidence and/or reason to support or refute ideas, issues, or positions.

2.6.2 Identify evidence and reasoning used to support or refute ideas, issues, or positions.

2.6.3 Determine the relevance and validity of evidence and reasoning used to support or refute ideas, issues, or positions.

2.6.5 Represent analyses verbally or nonverbally.

2.6.6 Support or refute representations of ideas, issues, or positions, using analyses of evidence and reasoning.

2.6.7 Present analyses to others and reads or listens actively to their responses.

2.6.8 Compare own analyses of ideas, issues, or positions with analyses presented to others.

4.1 The student will understand situations within which problems are found.

4.1.2 Identify important information, assumptions, relationships, and perspectives that may affect identification, understanding, and solutions of problems in specific situations.

4.1.3 Determine missing information that may affect understanding and solving problems in specific situations.

4.1.4 Represent understanding of situations verbally or nonverbally.

4.2 The student will define problems in specific situations.

4.2.3 Identify information needed to solve problems.

4.2.6 Determine whether or not problems can be solved with available information.

4.2.8 Predict solutions to problems and provide rationales for predictions.

4.3 The student will identify and evaluate alternative ways of solving problems.

4.3.1 Identify strategies that have worked in similar problem situations.

4.3.2 Match potential problem-solving strategies with expected solutions, available information, and similarity of situations.

4.3.3 Identify knowledge, resources, and skills required to solve problems.

4.3.4 Identify strategies that seem most appropriate to situations, expected solutions, knowledge, available information and resources, and available levels of skills.

4.4 The student will select and use appropriate strategies to solve problems.

4.4.1 Select and use strategies that seem most appropriate to problems, problem-solving, and specific situations.

4.4.3 Identify expected outcomes in each stage.

4.4.4 Monitor problem-solving processes through each stage.

4.4.5 Compare expected outcome with actual outcomes in each stage.

4.5 The student will evaluate solutions and strategies used to solve problems.

4.5.1 Establish criteria for evaluating solutions.

4.5.2 Evaluate solutions, using specific solutions.

4.5.3 Compare actual solutions with expected solutions.

4.5.5 Rework problems if solutions fail to meet criteria.

4.5.6 Determine where original problem-solving strategies went wrong, if necessary.

4.5.7 Reflect on problem-solving strategies in specific situations.

4.5.8 Determine what worked, what did not, and what other problems might be solved with specific strategies.

4.5.11 Adjust or refine problem-solving strategies as necessary.

Goal 3: Communication Skills

1.4 The student will use writing skills and strategies to construct written skills.

1.4.11 Proofread for spelling, punctuation, and grammar and edits as necessary.

2.3 The student will use reading skills and strategies to gather information and interpret written messages.

2.3.9 Construct interpretations of text messages in verbal and nonverbal forms, using text-based and knowledge-based information and reasoning.

2.4 The student will establish clear criteria for evaluating ideas, issues, of positions.

2.4.3 Determine the validity of the use of information for specific purposes.

2.4.4 Present and listen to alternative criteria and rationales for them.

Goal 4: Technology Skills

2.3 The student will use appropriate technologies to access, store, manage, analyze, and communicate information.

2.3.2 Store information, electronically, using and intergrating appropriate software.

2.3.4 Analyze information, using appropriate software.

2.3.5 Use technological systems and devices to communicate information effectively.

Maryland Core Learning Goals
Algebra

Indicator: 3.2.2 ***The student will interpret data and/or make predictions by finding and using a line of best fit and by using a given curve of best fit.***

Skills For Success Indicator and Elaboration Matches:
Goal 2: Thinking Skills

1.1 The student will develop alternative perspectives or ways of thinking and acting in complex situations.

1.1.1 Express thoughts relevant to situations.

2.1 The student will identify key ideas and issues in complex situations.

2.1.7 Represent relationships among ideas or issues verbally or nonverbally.

2.2 The student will evaluate the relevance and usefulness of supporting information in ideas and issues.

2.2.6 Identify additional information needed to support purposes, when appropriate.

2.6 The student will use evidence and/or reason to support or refute ideas, issues, or positions.

2.6.2 Identify evidence and reasoning used to support of refute ideas, issues, of positions.

2.6.3 Determine the relevance and validity of evidence and reasoning used to support or refute ideas, issues, or positions.

2.6.5 Represent analyses verbally or nonverbally.

2.6.6 Support or refute representations of ideas, issues, or positions, using analyses of evidence and reasoning.

2.6.7 Present analyses to others and reads or listens actively to their responses.

2.6.8 Compare own analyses of ideas, issues, or positions with analyses presented to others.

4.1 The student will understand situation within which problems are found.

4.1.2 Identify important information, assumptions, relationships, and perspectives that may affect identification, understanding, and solution of problems in specific situations.

4.1.3 Determine missing information that may affect understanding and solving problems in specific situations.

4.1.4 Represent understanding of situations verbally or nonverbally.

4.2 The student will define problems in specific situations.

4.2.3 Identify information needed to solve problems.

4.2.6 Determine whether or not problems can be solved with available information.

4.2.8 Predict solutions to problems and provide rationales for predictions.

4.3 The student will identify and evaluate alternative ways of solving problems.

4.3.1 Identify strategies that have worked in similar problem situations.

4.3.2 Match potential problem-solving strategies with expected solutions, available information, and similarity of situations.

4.3.3 Identify knowledge, resources, and skills required to solve problems.

4.3.4 Identify strategies that seem most appropriate to situations, expected solutions, knowledge, available information and resources, and available levels of skills.

4.4 The student will select and use appropriate strategies to solve problems.

4.4.1 Select and use strategies that seem most appropriate to problems, problem-solving, and specific situations.

4.4.3 Identify expected outcomes in each stage.

4.4.4 Monitor problem-solving processes through each stage.

4.4.5 Compare expected outcomes with actual outcomes in each stage.

4.5 The student will evaluate solutions and strategies used to solve problems.

4.5.1 Establish criteria for evaluating solutions.

4.5.2 Evaluate solutions, using specific criteria.

4.5.3 Compare actual solutions with expected solutions.

4.5.5 Rework problems if solutions fail to meet criteria.

4.5.6 Determine where original problem-solving strategies went wrong, if necessary.

4.5.7 Reflect on problem-solving strategies in specific situations.

4.5.8 Determine what worked, what did not, and what other problems might be solved with specific strategies.

4.5.11 Adjust or refine problem-solving strategies as necessary.

Goal 3: Communication Skills

1.4 The student will use writing skills and strategies to construct written skills.

1.4.11 Proofread for spelling, punctuation, and grammar and edits as necessary.

2.3 **The student will use reading skills and strategies to gather information and interpret written messages.**

2.3.9 Construct interpretations of text messages in verbal and nonverbal forms, using text-based and knowledge-based information and reasoning.

2.4 **The student will establish clear criteria for evaluating ideas, issues, or positions.**

2.4.3 Determine the validity of the use of information for specific purposes.

2.5 **The student will organize, store, and access information, using appropriate written, graphic, electronic, or other formats.**

2.5.8 Determine organization of information appropriate to intended uses and available technologies, time, and skills.

Goal 4: Technology Skills

1.1 **The student will identify and use resources and strategies for keeping abreast of advances in technologies.**

1.1.1 Identify multiple sources of information such as human, print, or electronic advances in technologies.

1.2 **The student will identify and describe current technologies used to meet a variety of needs, including accessing and managing information, communicating, performing work, and solving problems in a variety of situations.**

1.2.1 Identify specific needs for technologies in information search and management, communication, work, problem solving, and other uses.

1.2.2 Identify technologies used to meet needs.

1.2.7 Describe current technologies used to solve problems in a variety of situations, such as calculators, computers, and scientific equipment.

1.3 **The student will evaluate the uses of current technologies in specific situations.**

1.3.1 Identify uses of current technologies in specific situations.

1.3.8 Compare and select appropriate technologies for specific situations.

2.1 **The student will use technologies in safe and effective manner.**

2.1.1 Identify and describe appropriate uses of technologies in specific situations.

2.1.3 Use appropriate terminologies for technological systems and devices.

2.1.4 Operate and maintain tools and equipment safely and effectively, including computers, calculators, scientific equipment, and machines.

2.3 The student will use appropriate technologies to access, store, manage, analyze, and communicate information.

2.3.1 Access information from a variety of sources, including computer data bases and communication networks.

2.3.2 Store information electronically, using and intergrating appropriate software.

2.3.3 Manage information by means of electronic manipulation and organization, using appropriate software.

2.3.5 Use technological systems and devices to communicate information effectively.

2.3.8 Make changes in uses of technologies as appropriate.

2.4 The student will appropriate technologies for research, creativity, and problem solving.

2.4.1 Identify needs for technologies to increase productivity, to do research, for creative expression, to solve problem, and for other purposes.

2.4.5 Using existing, modified, or new technologies to do research, increase productivity, create new products or processes, for creative expression, to solve problems, and for other purposes.

3.1 The student will analyze the effects of technologies on individuals, society, and the environment.

3.1.7 Determine the limitations of technologies as solutions to problems.

Maryland Core Learning Goals
Algebra

Indicator: 3.2.3 ***The student will communicate the use and misuse of statistics.***

Skills For Success Indicator and Elaboration Matches:
Goal 2: Thinking Skills

1.1 The student will develop alternative perspectives or ways of thinking and acting in complex situations.

1.1.1 Express thoughts relevant to situations.

2.1 The student will identify key ideas and issues in complex situations.

2.1.2 Determine how situations may affect purposes and presentations or reception of ideas or issues.

2.1.7 Represent relationships among ideas or issues verbally or nonverbally.

2.2 The student will evaluate the relevance and usefulness of supporting information in ideas and issues.

2.2.1 Identify explicit or implicit purposes for using information in specific ideas or issues.

2.2.3 Establish criteria for evaluating the relevance and usefulness of information for specific purposes.

2.2.4 Determine the relevance and usefulness of information for specific purposes.

2.2.6 Clarify interpretations of main ideas or themes by paraphrasing, summarizing, or representing them in another form.

2.3 The student will examine basic concepts and assumptions underlying ideas, issues, or positions.

2.3.1 Identify ideas, issues, or positions in specific situations.

2.3.3 Identify explicit concepts and assumptions that support or refute ideas, issues, or

2.3.4 Scan titles, headers, and graphic displays of texts to gain a general sense of their contents and organization.

2.5 The student will recognize bias, vested interests, stereotyping, manipulation, and misuse of information.

2.5.1 Define bias, vested interest, stereotyping, manipulation, and misuse of information.

2.5.2 Identify bias, vested interest, stereotyping, manipulation, and misuse of information in specific situations.

2.5.3 Determine sources of bias, vested interest, stereotyping, and manipulation, of information in specific situations.

2.5.4 Analyze the effects of bias, vested interest, stereotyping, manipulation, or misuse of information in specific situations.

2.5.5 Compare own perspections or analyses of bias, vested interest, stereotyping, manipulation, or misuse of information with perceptions or analyses by others.

2.6 The student will use evidence and/or reason to support or refute ideas, issues, or positions.

2.6.2 Identify evidence and reasoning used to support or refute ideas, issues, or positions.

2.6.3 Determine the relevance and validity of evidence and reasoning used to support or refute ideas, issues, or positions.

2.6.5 Represent analyses verbally or nonverbally.

2.6.6 Support or refute representations of ideas, issues, or positions, using analyses of evidence and reasoning.

2.6.7 Present analyses to others and reads or listens actively to their responses.

2.6.8 Compare own analyses of ideas, issues, or positions with analyses presented to others.

4.1 The student will understand situations within which problems are found.

4.1.2 Identify important information, assumptions, relationships, and perspectives that may affect identification, understanding, and solution of problems in specific situations.

4.1.3 Determine missing information that may affect understanding and solving problems in specific situations.

4.1.4 Represent understanding of situations verbally or nonverbally.

4.2 The student will define problems in specific situations.

4.2.3 Identify information needed to solve problems.

4.2.6 Determine whether or not problems can be solved with available information.

4.3 The student will identify and evaluate alternative ways of solving problems.

4.3.1 Identify strategies that have worked in similar problem situations.

4.3.2 Match potential problem-solving strategies with expected solutions, available information, and similarity of situations.

4.3.3 Identify knowledge, resources, and skills required to solve problems.

4.3.4 Identify strategies that seem most appropriate to situations, expected solutions, knowledge, available information and resources, and available levels of skills.

4.4 The student will select and use appropriate strategies to solve problems.

4.4.3 Identify expected outcomes in each stage.

4.4.5 Compare expected outcomes with actual outcomes in each stage.

4.5 The student will evaluate solutions and strategies used to solve problems.

4.5.1 Establish criteria for evaluating solutions.

4.5.2 Evaluate solutions, using specific criteria.

Goal 3: Communication Skills

1.4 The student will use writing skills and strategies to construct written skills.

1.4.11 Proofread for spelling, punctuation, and grammar and edits as necessary.

2.3 The student will use reading skills and strategies to gather information and interpret written messages.

2.3.9 Construct interpretations of text messages in verbal and nonverbal forms, using text-based and knowledge-based information and reasoning.

2.4 The student will establish clear criteria for evaluating ideas, issues, or positions.

2.4.3 Determine the validity of the use of information for specific purposes.

2.4.4 Present and listen to alternative criteria and rationales for them.

Goal 4: Technology Skills

3.1 The student will analyze the effects of technologies on individuals, society, and the environment.

3.1.7 Determine the limitations of technologies as solutions to problems.